



RCA INSTITUTES, Inc.

School of Custom Educational Programs  
350 West 4th Street • New York, N.Y. 10014



Mr. T. Nelson  
Systems Consultant  
Box 1546  
Poughkeepsie, New York  
12603

## STAFF

Bradford Daggett, Director

Matthew V. Mahoney, Admin., Development

Alfred B. Petricolas, Dean

Mario C. Laguzzi, Member of Technical Staff

Edward K. Marrie, Member of Technical Staff

Abraham Schwartz, Member of Technical Staff

## REGISTRATION INFORMATION

Seminars will be limited in size. Registrations will be accepted in the order received. Substitution of applicants may be made at any time. Cancellation of registration will be honored and fee refunded provided notification is received no later than one week prior to the seminar. Registration fee includes attendance, luncheon, coffee break, and a complete package of reference material. Reference material will be issued at the opening session. Telephone answering service is provided during seminar hours.

## HOTEL ACCOMMODATIONS

RCA Institutes has reserved a block of rooms in each seminar hotel. Hotel room is not included in the registration fee. Additional hotel information will be forwarded with your confirmed reservation. Please arrange room accommodations directly with the hotel, with reference to RCA Institutes' seminar.

## OTHER SEMINARS IN COMPUTER TECHNOLOGY INCLUDE:

Digital Systems Engineering   Digital Electronics  
Digital Communications



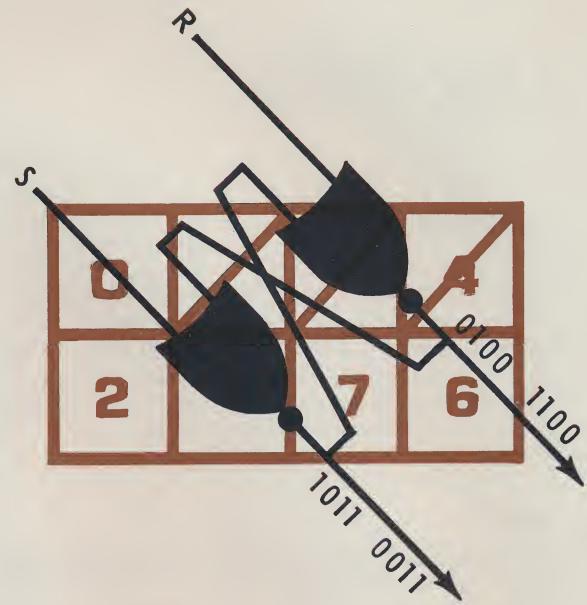
**RCA INSTITUTES, Inc.**

*School of Custom Educational Programs*

350 West 4th Street

New York, N.Y. 10014

Area Code 212, Direct Line 989-2093



# RCA INSTITUTES Announces A Five-Day Seminar –

**LOGIC  
DESIGN**

# Logic Design

## INTRODUCTION

LOGIC DESIGN is one of a series of seminars on modern technology presented by RCA Institutes. This seminar has been developed for engineers and other technical personnel concerned with the design and optimumimization of digital hardware. Its objective is to train participants in the use of many of the latest techniques of logic design.

## SCOPE

Today's new digital techniques far outweigh classical logic and Boolean Algebra as logic design tools; these new methods are explored and developed in this seminar. Powerful, rapid design procedures based on designation numbers, logic matrices, and graphical synthesis are presented. Emphasis will be placed on the "Building Block" concept, an approach which permits the application of these techniques to such diverse areas as electronics, magnetics, fluid logic and mechanics.

## PREREQUISITES

The minimum requirements are a baccalaureate degree in mathematics, engineering or physics, or the equivalent. Experience in switching circuits or digital systems may be substituted.

## PRESENTATION

Members of the School of Custom Educational Programs will present this program of concentrated study using a unique cross-fire teaching technique designed to motivate the participant.

This seminar has been developed through extensive field research by the School of Custom Educational Programs in consultation with RCA Institutes' Board of Technical Advisers, representing various technical, research and educational activities of the Radio Corporation of America and its subsidiaries.

## SEMINAR OUTLINE

### FIRST DAY

#### NUMERICAL APPROACH TO LOGIC

Number system; binary coding; set theory and logic equations; the designation number concept.

### SECOND DAY

Application of designation numbers; the input and output matrices; design with matrices; and the numbered logic map; combinational design procedures.

### THIRD DAY

#### DESIGN FOR RELIABILITY AND ECONOMY

Logical dependence; the constrained matrix; standard computer packages; NAND-NOR implementation.

### FOURTH DAY

#### TIME SEQUENTIAL NETWORKS

Feedback and recursive design; RS, Type D, Type T, and JK flip-flops; ripple-through and parallel counters; parallel and serial arithmetic.

### FIFTH DAY

#### DIGITAL APPLICATIONS

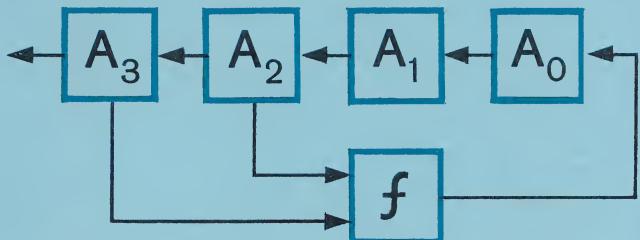
Utilizing counters and shift registers; multiple function design; synthesis of wavetrains; encoding and decoding matrices.

## SEMINAR INFORMATION

Seminars will be limited in size. Registrations will be accepted in the order received. Substitution of applicants may be made at any time. Cancellations will be honored and fee refunded provided notification is received no later than two weeks prior to the seminar.

**Hotel Accommodations**—RCA Institutes reserves a block of rooms in each seminar hotel. Please make reservations directly with the hotel, with reference to RCA Institutes' seminar.

Registration fee includes attendance, luncheon, coffee break, and a complete package of reference material. Telephone answering service is provided during seminar hours.



# RCA INSTITUTES Announces A Five-Day Seminar—



**RCA INSTITUTES, Inc.**  
A Service of Radio Corporation of America  
*Schools of Television and Electronics Technology*  
350 West 4th Street  
New York, N.Y. 10014

**DIGITAL  
SYSTEMS  
ENGINEERING**

# Digital Systems Engineering

## INTRODUCTION

DIGITAL SYSTEMS ENGINEERING is one of a series of seminars on modern technology developed by RCA Institutes. In this program, the engineer will be presented with practical, up-to-date design procedures for digital systems too complex for conventional techniques.

## SCOPE

This seminar will begin with a development of simple but powerful methods of single and multiple function design. Following this, procedures for the generation, transmission, acquisition, and storage of digital data will be explored. Typical problems of interface, noisy channel, and error-detection will be solved. Finally, methods of processing digitally-encoded data will be presented.

The "building-block" approach used throughout permits the application of all procedures in such areas as magnetics and fluid logic, as well as electronics.

## PREREQUISITES

This presentation is directed to engineers and technical personnel concerned with the theory, design, and operation of complex switching or digital systems. The minimum requirements are a baccalaureate degree in mathematics, engineering, or physics, or the equivalent. Experience in switching circuits or digital systems may be substituted for the minimum educational requirements.

## STAFF

This seminar will be presented by members of the staff of RCA Institutes' School of Custom Educational Programs, under the direction of

Bradford Daggett, Director

Alfred B. Peticolas, Dean, Program Coordination

Matthew V. Mahoney, Dean, Technical Programs

Abraham Schwartz, Member of Technical Staff

Mario C. Laguzzi, Member of Technical Staff

and

The Board of Technical Advisers, representing various technical, research, and educational activities of the Radio Corporation of America and its subsidiaries.

## SEMINAR OUTLINE

### *BASIC DESIGN PROCEDURES*

**FIRST  
DAY**

Review of designation numbers; matrix circuits for multiple-function, high-order problems; NAND/NOR design; standard logic packages.

**SECOND  
DAY**

*GENERATION OF THE SIGNAL*  
Type D, RS, T, and clocked J-K flip-flops; design of coded counters; precision digital measurements; sampling techniques; analog-to-digital, and digital-to-analog conversion.

**THIRD  
DAY**

### *TRANSMITTING DIGITAL INFORMATION*

Sequential function generation; design of shift registers; binary codes; techniques of error reduction; digital communications; pseudo-random and period code generation.

**FOURTH  
DAY**

### *RECEIVING AND TRANSLATING DIGITAL INFORMATION*

Interface design problems; change of logic levels; timing and synchronization; data buffering; code format conversion; noise and hum problems. Data acquisition, storage, and read-out; random-access memory.

**FIFTH  
DAY**

### *PROCESSING OF DIGITAL INFORMATION*

Serial and parallel data processing; techniques for addition, subtraction, multiplication, and division; correction for decimal codes; design of sample control unit.

## SEMINAR INFORMATION

### REGISTRATION INFORMATION

Seminars will be limited in size. Registrations will be accepted in the order received. Substitution of applicants may be made at any time prior to program. Cancellations will be honored and fee refunded provided notification is received no later than one week prior to the seminar. Registration fee includes attendance, luncheon, coffee break, and a complete package of reference material. The package of reference material will be issued at the opening session. Telephone answering service is provided during seminar hours.

### HOTEL ACCOMMODATIONS

RCA Institutes has reserved a block of rooms in each seminar hotel. Hotel room is not included in the registration fee. Additional hotel information will be forwarded with your confirmed registration. Please make room accommodations directly with the hotel, with reference to RCA Institutes' seminar.

### OTHER SEMINARS IN COMPUTER TECHNOLOGY INCLUDE:

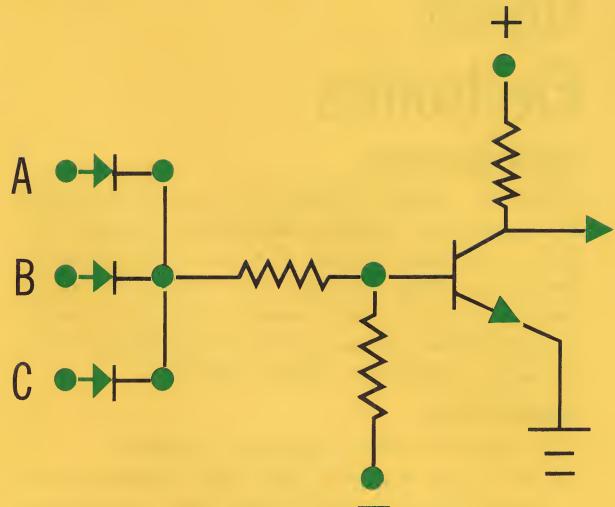
Logic Design For Digital Systems  
Digital Systems Engineering  
Digital Communications  
Numerical Control



RCA INSTITUTES, Inc.

*School of Custom Educational Programs*

350 West 4th Street  
New York, N.Y. 10014  
Area Code 212 YU-9-2093



RCA INSTITUTES  
Announces  
A Five-Day Seminar—  
  
DIGITAL  
ELECTRONICS

# Digital Electronics

## INTRODUCTION

DIGITAL ELECTRONICS is one of the series of seminars on modern technology presented by RCA Institutes' School of Custom Educational Programs. This program has been developed through extensive field research and gives practical applications of many of the latest design techniques for solid-state digital circuits.

## OBJECTIVE

The objective of this program is twofold:

1. To equip engineers and other technical personnel with practical, up-to-date procedures for designing logic packages;
2. To help engineers gain maximum utility and reliability from commercial digital integrated circuits.

## WHO SHOULD ATTEND?

This program is designed for engineers and other technical personnel faced with the challenging new areas in the theory, design and technical operations of solid-state digital circuits. The minimum requirements are a bachelor of science degree, or the equivalent in electrical (electronics) engineering or in physics. A knowledge of D.C. and A.C. circuit theory is essential. Prior knowledge of Boolean Algebra will be helpful but is not required.

## STAFF

This seminar will be presented by members of the RCA Institutes' School of Custom Educational Programs, under the direction of Bradford Daggett, Director, and has been developed in consultation with RCA Institutes' Board of Technical Advisers, representing various technical, research and educational activities of the Radio Corporation of America and its subsidiaries.

Matthew V. Mahoney, Dean, Technical Programs  
Alfred B. Peticolas, Dean, Program Co-ordination

Mario C. Laguzzi, Member of Technical Staff  
Edward K. Marrie, Member of Technical Staff  
Abraham Schwartz, Member of Technical Staff

## SEMINAR OUTLINE

**FIRST  
DAY**

### *INTRODUCTION AND REVIEW*

The package concept; measuring integrated circuit parameters; logic symbology and standards; standard combinational and recursive packages; review of junction characteristics.

**SECOND  
DAY\***

### *SEMICONDUCTOR CIRCUITS*

Design of diode gating; transistor behavior and regions of operations, basic circuit configurations; parameter variations; transistor switching circuits.

**THIRD  
DAY\***

### *TRANSISTOR GATE DESIGN*

Noise immunity and critical voltages; analysis of the basic inverter; designing modern inverter and driver circuits; designing DTL and RTL gates.

**FOURTH  
DAY\***

### *DESIGN WITH INTEGRATED CIRCUITS*

Logic forms for integrated circuits; complementary output; current-mode logic; TTL gating; type RS, T and D flip-flops; universal JK elements; master-slave circuits.

**FIFTH  
DAY**

### *SPECIAL DEVICES*

Clock generators; design of single-shots and Schmitt triggers; interface compatibility and timing; solutions to reliability, and noise problems. Design applications of junction and MOS field-effect devices; tunnel diode applications.

### *\*LABORATORY*

In sessions conducted during class hours, participants will design, construct and test digital circuits on individualized equipment.

\*\*\*\*\*  
For further information, contact  
Bradford Daggett, Director  
RCA Institutes, Inc.  
School of Custom Educational Programs  
350 West 4th Street  
New York, N. Y. 10014  
Telephone YU 9-2093

\*\*\*\*\*



THE MOST TRUSTED NAME IN ELECTRONICS

# RCA INSTITUTES

SCHOOL OF  
CUSTOM EDUCATIONAL PROGRAMS



*Dedicated to up-dating  
technicians, scientists  
and engineers in both  
theory and applications  
of new technologies*



RCA INSTITUTES, Inc.

350 West 4th Street  
New York, N. Y. 10014

## RCA INSTITUTES IS BROADLY BASED!

RCA Institutes School of Custom Educational Programs is designed to meet the needs of government, industry and the individual.

In the past year alone, RCA Institutes' custom educational services has trained members of more than 150 organizations including industrial firms, professional societies, government agencies and labor unions.

### HERE'S WHAT WE MEAN BY BROADLY BASED:

#### SEMINARS

Short, highly concentrated educational programs designed primarily to up-date engineers and scientists in the modern technologies. Offered in either hotel or motel facilities at major industrial centers throughout the U. S.

#### IN-PLANT SEMINARS

Seminars are presented at the facilities of the clients, thus eliminating or minimizing costly travel expenses for their employees.

#### SPECIAL PROGRAMS

Programs in the field of electronic technology are tailored to meet the specific needs of a client. Programs may vary from short survey courses for sales personnel to highly concentrated and specialized educational programs for technicians and engineers.

### OUR TECHNIQUES ARE WIDELY ACCLAIMED

**Seminars**—An intensive research program is conducted in specific areas of industry requiring updating in modern technology. Lecture notes are prepared on the subject. Two instructors work in a cross-fire technique in presenting the seminar to motivate the scientist or engineer as he progresses in the program. Extensive exercises are given to teach the various applications of the new technology.

**Special Programs**—We research the client's needs, write the course outline, prepare the classroom material, give assistance in selecting the attending personnel, and provide the instruction.

## RCA INSTITUTES IS VERSATILE!

### THERE ARE FOUR SCHOOLS:

1. The School of Custom Educational Programs with programs designed to meet your needs.

2. Home Study offering either established courses in electronics, or customized to suit your requirements.

3. Resident School with more than 3,000 students attending—day and evening.

4. Studio School—special programs designed to meet the needs of the broadcasting field.

• • • Individuals can attend—either in residence, or seminar presentations.

• • • Individuals can study at home—as a single enrollee, or as a group member.

• • • RCA Institutes will come to your in-plant facilities . . . with an established format . . . or design one for you . . . to be conducted by RCA Institutes Specialists or your own training people.

Let RCA Institutes Design a Program to fit Your Needs!



## CALENDAR

July 11-15     **DIGITAL SYSTEMS ENGINEERING**  
                    New York City, New York

July 18-22     **DIGITAL ELECTRONICS**  
                    New York City, New York

Aug 1-5        **DIGITAL SYSTEMS ENGINEERING**  
                    Washington, D. C.

Aug 8-12       **LOGIC DESIGN**  
                    Chicago, Illinois

Sept. 19-23     **DIGITAL SYSTEMS ENGINEERING**  
                    Detroit, Michigan

Sept. 26-30     **DIGITAL SYSTEMS ENGINEERING**  
                    Boston, Mass.

Sept. 26-30     **DIGITAL ELECTRONICS**  
                    Washington, D. C.

Oct. 3-7        **LOGIC DESIGN**  
                    Los Angeles, Calif.

Oct. 10-14      **LOGIC DESIGN**  
                    San Francisco, Calif.

Oct. 17-21      **DIGITAL ELECTRONICS**  
                    Palm Beach, Florida

## CALENDAR

Oct. 24-28     **LOGIC DESIGN**  
                    Houston, Texas

Oct. 24-28     **DIGITAL SYSTEMS ENGINEERING**  
                    New York City, New York

Oct. 31        **LOGIC DESIGN**  
                    Boston, Mass.

Oct. 31        **DIGITAL ELECTRONICS**  
                    Los Angeles, Calif.

Nov. 14-18     **LOGIC DESIGN**  
                    Palm Beach, Florida

Nov. 14-18     **DIGITAL COMMUNICATIONS**  
                    New York City, New York

Nov. 28        **DIGITAL SYSTEMS ENGINEERING**  
                    San Francisco, Calif.

Dec. 5-9       **DIGITAL SYSTEMS ENGINEERING**  
                    Los Angeles, Calif.

Dec. 12-16     **DIGITAL ELECTRONICS**  
                    Washington, D. C.

Dec. 12-16     **DIGITAL COMMUNICATIONS**  
                    Palm Beach, Florida

SUBJECT TO CHANGES AND ADDITIONS  
WITHOUT NOTIFICATION.

SUBJECT TO CHANGES AND ADDITIONS  
WITHOUT NOTIFICATION.



RCA INSTITUTES, Inc.  
School of Custom Educational Programs  
350 West 4th Street • New York, N.Y. 10014

July 22, 1966

Mr. T. Nelson  
Systems Consultant  
Box 1546  
Poughkeepsie, New York

Dear Mr. Nelson:

Thank you for inquiring about RCA Institutes' Seminars related to Computer Technology. Enclosed are three folders which describe, in detail, the current Seminar programs.

A schedule listing dates and locations of forthcoming Seminars is also enclosed for your information.

In addition to the Seminar Information contained herein, RCA Institutes' School of Custom Educational Programs is also prepared to provide packaged programs for presentation at its client's location, utilizing their own facilities and personnel. Or, if you prefer, a program can be custom-tailored to suit your convenience.

Meanwhile, if you are interested in attending one of the Computer Technology Seminars, we urge you to complete the enclosed registration form, since recent presentations were over-subscribed.

Looking forward to having you join us,  
I am,

Sincerely,

*Bradford Daggett*  
Bradford Daggett  
Director

# FUTURE SEMINAR ANNOUNCEMENTS

**Gentlemen:**

Please place the following names  
on your mailing list for future sem-  
inar announcements:

name \_\_\_\_\_ title \_\_\_\_\_

name \_\_\_\_\_ title \_\_\_\_\_

name \_\_\_\_\_ title \_\_\_\_\_

firm's name \_\_\_\_\_

address \_\_\_\_\_ zip code \_\_\_\_\_

Postage  
Will be Paid  
by  
Addressee

No  
Postage Stamp  
Necessary  
If Mailed in the  
United States

**B U S I N E S S   R E P L Y   M A I L**

FIRST CLASS PERMIT NO. 10662, NEW YORK, N. Y.

**RCA INSTITUTES, Inc.**  
**350 West 4th Street**  
**New York, N.Y. 10014**

CUSTOM EDUCATIONAL PROGRAMS

# The RCA INSTITUTES

Home Study School is one of several in a complex of educational services. Other schools in the Institutes are:

## RCA Institutes Resident School

—located in New York City, provides day and evening classes for the preparation of technicians at many levels.

## RCA Institutes Studio School

—located in New York City, provides day and evening classes for the preparation of personnel in radio and TV studio operation.

## RCA Technical Institute

—located in Cherry Hill near Camden, New Jersey, provides training in Computer Programming and Computer Electronics.

## RCA Institutes School of Custom Education

—headquartered in New York City, provides seminar and especially designed electronics programs in major cities in the United States and at industrial sites wherever desired.

For details on all programs of study and schools of RCA Institutes write to:

**Mr. Donald H. Gieb, Sales Manager**

RCA Institutes, Inc.

350 West 4th Street

New York, New York 10014

Or, call Mr. Gieb at (212) YUKon 9-2219.

**THERE'S AN  
RCA INSTITUTES  
COURSE  
TAILORED  
TO YOUR  
REQUIREMENTS**



**RCA INSTITUTES, Inc.  
HOME STUDY SCHOOL**

A Service of Radio Corporation of America

350 W. Fourth Street

New York, N.Y. 10014

AREA CODE 212-YU 9-2000

# INDUSTRIAL TRAINING PROGRAMS



**RCA INSTITUTES, Inc.  
HOME STUDY SCHOOL**

A Service of Radio Corporation of America

350 W. Fourth Street, New York, N.Y. 10014

AREA CODE 212-YU 9-2000

# RCA INSTITUTES INDUSTRIAL TRAINING PROGRAMS FOR INDUSTRY

## In-Plant and After-Hours Electronics Training

RCA Institutes Home Study School's curriculum is designed to meet the needs of industry. Whether the training is to be done on company time or after-hours, home study (correspondence) courses are an economical, efficient way of solving many training problems.

Designed to meet the electronics training needs for apprenticeship and technician upgrading, the large curriculum of 15 courses and 10 programs of study can meet most of these training needs. As briefly described in this brochure, the range of courses is broad, from basic electronics to advanced electronics subjects.

### BASIC COURSES

**Introduction to Electronics:** Course 1-P is designed to teach the fundamentals of electricity, magnetism, DC and AC circuits. It is written in the RCA "Autotext" programmed instruction format.

**Electronics Fundamentals:** Course 1-EFP is designed to teach all that is described for Course 1-P plus the fundamentals of electron-tube and transistor circuitry.

**Drafting:** Course 1-DR provides the student with the skills and knowledges of fundamental mechanical and electrical drafting techniques.

**Computer Programming:** Course 1-EDP lays the foundation for an understanding of electronic data processing systems and programming of business problems on computers. It is non-electronic in its approach.

### ADVANCED COURSES

**Television Servicing:** Course 2-TK (or 2-T, without kits) is designed to prepare a student for maintenance, repair, and servicing of monochrome television receivers.

**Color Television:** Course 3-T prepares the person knowledgeable in monochrome television to acquire the servicing know-how on color television receivers.

**Transistors:** Course 2-SC promotes a thorough understanding of transistors and the major circuits in which they are used.

**Communications Electronics:** Course 2-CM is designed to give the student an understanding of communications circuitry and equipment, including such areas as single sidebands and VHF communications.

**FCC License Preparation:** Course 2-CML is designed to help students, wishing to obtain an FCC License, to successfully pass the required examinations.

**Mobile Communications:** Course 2-CMM is designed to give the experienced communications technician an insight into circuits and equipment used in mobile activities.

**Automation Electronics:** Course 2-EA is designed to teach the student the important, fundamental principles and applications in a variety of areas in automation and industrial electronics.

**Automatic Controls:** Course 2-EAC (a selection of topics from Course 2-EA) specifically prepares a student to install and maintain electronic equipment used in closed loop (feedback) production systems.

**Digital Techniques In Industry:** Course 2-EAD (a selection of topics from Course 2-EA) specifically prepares a student to install and maintain electronic equipment used in industrial applications of digital techniques.

**Industrial Applications:** Course 2-EAI (a selection of topics from Course 2-EA) specifically prepares a student to install and maintain electronic equipment used in automated industrial establishments.

**Nuclear Instrumentation:** Course 2-EAN (a selection of topics from Course 2-EA) specifically prepares a student to maintain and operate electronic equipment used for nuclear instrumentation.

### CAREER PROGRAMS

Ten programs of study are also available for the beginner and the apprentice seeking a complete sequence of subjects from the elementary topics, described in the basic electronics courses, through those described in the advanced courses. The programs are **Television Servicing, Telecommunications, Solid-State Electronics, FCC License Preparation, Automation Electronics, Automatic Controls, Digital Techniques, Industrial Electronics, Nuclear Instrumentation and Electronics Drafting.**

For details on all courses and programs write for the Home Study Catalog. See next page for address.